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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,377	08/15/2006	Theodor Morel Fishler	0-05-165	9287

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EXAMINER

MANOHAR, MANU M

ART UNIT	PAPER NUMBER
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4161

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08/19/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/552,377	Applicant(s) FISHLER, THEODOR MOREL	
	Examiner MANU MANOHAR	Art Unit 4161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>March 06, 2006, October 07, 2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The status of the Claims

Claims 1-23 are pending in the application.

Priority

This application has the filing date of August 15, 2006 and is a national stage application of PCT/IL2004/000317, filed April 8, 2004, and claims foreign priority to IL patent application 155435, filed April 14, 2003. This application is considered with the priority date of April 14, 2003.

Claim Rejections - 35 USC § 101 and 112

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 21 is drawn to the use of biocidal compositions containing biocidal components and mixed with said components a combination of inorganic compounds capable of reducing the oxidative capacity of the biocidal components by forming a low-melting glass when heated, for the sanitation of bodies of water.

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Claim 22 is drawn to the use according to claim 21, wherein the bodies of water are chosen from the group consisting of swimming pools, spas, cooling towers, paper industry wastes, toilet bowls, household and I&I bleaches applications.

Claims 21 and 22 are drawn to the use of biocidal composition, preparation of composition formed with low melting glass by heating for sanitation of water, and the use of choosing water from pools and spas. Since these claims do not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 21 and 22 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim 1-20 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 23: The term "low melting" claims 1 and 23 is a relative term which renders the claim indefinite. The term "low melting " is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one

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of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Claims 2-20 are rejected which read on claim 1.

Claim 6 :The term "moderately" is a relative term which renders the claim indefinite. The term is "moderately " is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim 11 recites the limitation ratio $\text{SiO}_2/\text{Na}_2\text{O}$ is between 2 and 5 in a biocidal composition. However, the alkaline silicates are never previously limited to necessarily having this components.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 2 and 3 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for preparing biocidal composition it does not reasonably provide enablement for preparing active biocidal composition. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

Claim 2 is a biocidal composition wherein the biocidal composition is heated by being ignited or subjected to a heating source.

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The invention is preparation of solid biocidal composition and claim 2 encompasses heating or igniting biocidal composition containing inorganic compounds capable of reducing the oxidative capacity by forming a low melting glass. Olson reference (listed in IDS) teaches the encapsulation of bleach particles with inorganic compounds by using heat. The instant claim states the biocidal composition is heated by being ignited or subjected to a heating source, which means that the biocidal component of the biocidal composition will also be subjected to the heating. A biocidal component would not retain its property after being subjected to ignition or heating. Specification does not provide enough description about the biocidal preparation with heat and the working example is lacking to address this issue. In the absence of further guidance, as the heat would diminish the properties of, or destroy, the biocidal component, undue experimentation would be required by one skilled in the art to make and/or use the claimed invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4-6, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Olson, US Patent 4,731,195.

Claim 1 is drawn to biocidal compositions, containing biocidal components and mixed with said components a combination of inorganic compounds capable of reducing

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the oxidative capacity of the biocidal components by forming a low-melting glass when heated. Claim 2 is drawn to biocidal composition wherein the biocidal composition is heated by being subjected to a heating source.

Olson teaches the coating of biocide with inorganic compounds by using heat which reduces its detergent (oxidative) capacity (Column 1-line 13-16, column 2-line 52-57, column 4- line 60-65, column 5-line 3 -16). Although this reference does not explicitly state 'by forming low melting glass when heated' it is implied that heating inorganic compounds with biocide will form a thin coating (low melting-glass) which will protect the biocide from interacting with other reactive components in the composition (reducing its oxidative property).

Claim 4 is drawn to the biocidal composition wherein the biocidal component is an oxidant. Olson teaches use of halogen bleach, chlorine releasing detergent, which are known as oxidants (column 4-line 36-38) .

Claim 5 is drawn to the biocidal composition wherein the oxidant is trichloroisocyanuric acid. Olson teaches the use of several derivatives of cyanuric acid (column 4-line 39 – 55) including trichlorocyanuric acid (synonym-trichloroisocyanuric acid).

Claim 6 is drawn to the biocidal composition wherein the composition forms a low-melting glass when heated to moderately high temperatures. Olson teaches the formation of molten coating (Column 2- line 52-57) of the composition which contain silicates (Column 5 -line 59-62) when the temperature is above the melting point of the

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composition (Column 4-line 60-65), which can be considered to be a moderately high temperature.

Claim 23 is drawn to a method for rendering biocide compositions, which comprises mixing with the biocide a combination of inorganic compounds capable of forming a low-melting glass when heated to moderately high temperatures. Olson teaches the mixing of biocide with inorganic compounds which forms coating when using heat (Column 2-line 52-57, column 4- lines 36-38, 60-65, column 5-line 46-62).

Olson teaches the preparation of encapsulation of bleach particles with inorganic compounds and claims 1, 2, 4-6 and 23 encompasses the same method.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 8, 9, 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olson, US Patent 4,731,195 listed in IDS.

Claim 7 depends from claim 6 (which reads on claim 1) is drawn to the biocidal composition wherein the moderately high temperatures are from 300 to 800.degree. C.

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Olson teaches the compounds in the composition with a melting point 1100 F to 1600F (approximately 590 -870 C) which is used for coating the biocides (Column 5 line 8-13). The reference does not specifically teach the temperatures are from 300 to 800 C. However, it does teach an overlapping range. It would be obvious to use a temperature that fell within overlapping range taught in the Olson reference. In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed.Cir. 1990).

Claim 8 depends from claim 1, is drawn to the composition wherein the combination of inorganic compounds is the combination of boric compounds and alkaline silicates. Olson teaches the use of several inorganic compounds that include boric compounds and alkaline silicates (Column 5-line 49-52, 59-62). Olson does not teach specifically the combination of boric compounds and silicates in the composition. It is known in the art that the combination of borate and silicate will form a molten material which can form coatings like thin glass when heating above their melting points. Borate and silicate combination have desirable property that it can form low melting borosilicate glass that can protect the biocide from contact with its surrounding. The combination also renders it non-dangerous in a situation like fire and the borosilicate glass makes biocide available easily (coating are fragile) at the place of use.

Claim 9 according to claim 8, is drawn to the biocidal composition wherein the boric compounds are chosen from among boric acid, borax and sodium tetraborate.

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Olson teaches the borate (Column 5-line 49-52) can be used in a biocidal composition used for water treatment. Boric acid and tetraborate are all the family of boric compound as stated in the instant claim that can be replaced one for another for the formation of coating material.

Claim 10 according to claim 8, is drawn to the composition wherein the silicates are sodium silicates. Olson teaches the use of silicates including sodium metasilicate, a member of sodium silicate (Column 5-line 59-62).

Claim 11 according to claim 8, is drawn to the biocidal composition wherein the silicates are such that the ratio $\text{SiO}_2/\text{Na}_2\text{O}$ is between 2 and 5 and the Na_2O content is between 12-25%. Olson teaches the use of variety of silicates including metasilicates and orthosilicates (Column 5-line 59-62). In addition the silicates exist in different forms like, for example sodium silicate can be orthosilicates (Na_4SiO_4), metasilicate (Na_2SiO_3); sodium polysilicate, $(\text{Na}_2\text{SiO}_3)_n$; sodium pyrosilicate, $(\text{Na}_6\text{Si}_2\text{O}_7)$, and others. Hence the ratio of SiO_2 and Na_2O can fall in the range 2-5 and the content can vary between 12-25%. In addition these silicates can also form coating materials that can be used for the same purposes like protecting the biocide as claimed in the instant claims.

Claim 12 according to claim 1, is drawn to the biocidal composition wherein the combination of inorganic compounds is such as to produce, when heated, a low-melting, borosilicate glass which coats the oxidant. Olson teaches the use of different inorganic compounds including borates and silicates (column 5-line 49-51, 59-62) for coating biocides (halogenated detergents) which forms coating, during the heat treatment (Column 3 line 29-39). It is known in the art that when the inorganic

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compounds borate and silicate are selected in a combination, the combination will form borosilicate which can be used for coating the oxidant like detergents

Claim 13 according to claim 9 is drawn to the composition wherein the contents of boric acid or of the molar boric moieties of borates, are from 2 to 15 wt % of the whole composition. Claim 14 according to claim 13 is drawn to the composition wherein the contents of boric acid or of the molar boric moieties of borates, are from 10 to 15 wt % of the whole composition.

Claim 15 according to claim 8 is drawn to the biocidal composition wherein the contents of the silicates are from 1 to 10 wt % of the composition. Claim 16 according to claim 15 is drawn to the composition wherein the contents of the silicates are from 2 to 8 wt % of the composition.

Olson teaches the composition of the various coating materials, which include borates and silicates, comprises 2-40 wt-% of the composition (Column 6- line 65 - 68, column 10-claims 9 and 10). It would be obvious to use the percentages of borates and silicates that fall in the overlapping range as taught in Olson. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed.Cir. 1990).

Claim 17, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al US Patent 5,478,482 (listed in IDS)

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Claim 17 according to claim 1 is drawn to the biocidal composition further comprising a flocculent. Claim 18 according to claim 17 is drawn to the composition wherein the flocculant is aluminum sulfate. Jones et al teaches the use of aluminium sulfate in a composition (Column 9-line 56, column 10-line 14, 27, 44).

Claim 20, according to claim 1, is drawn to the biocidal solid composition in the form of tablets, briquettes, granules or powder. Jones et al teaches that biocidal composition can be in the form of tablet, stick or other solid forms (Column 4-line 55, column 5-line 7-9). Claim 1 is rejected under 102(b) as stated in the previous section.

Jones invention is the preparation of composition for treating water systems. During the preparation of biocidal composition it is necessary to remove the precipitates and the addition of flocculant like alum will facilitate the process. The interest in the field also is to develop a biocidal composition which are less cumbersome to transport like in tablets forms. Jones et al teaches these steps as claimed in the instant claims. It makes it prima facie obvious to one of ordinary skill in the art at the time of the invention to develop a biocidal with flocculant in the tablet forms.

Claims 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Olson, US Patent 4,731,195. in view of Jones et al , US Patent 5,478,482 (listed in IDS)

Claim 19 is drawn to the biocidal composition wherein the oxidant is chosen from the group consisting of trichloro-isocyanuric acid, calcium hypochlorite, dihalo-dialkyl-hydantoins, halogenated isocyanuric acids and the salts of said acids.

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Olson teaches the use of trichlorocyanuric acid, calcium hypochlorite and halogenated isocyanuric acids (Column 4- line 39-49) in a biocidal composition. However Olson do not specifically teaches use of dihalo-dialkyl-hydantoins, Jones teaches the use of halogenated hydantoins in a biocidal composition (Column 1- line 34-36). It is interest in the field to develop effective biocidal using chemicals like halogenated hydantoins (dihalo-dialkyl-hydantoins) which has less combustable property and less liable to augment the burning of combustable materials. The combined teachings of Olson, in view of Jones et al makes it prima facie obvious to one of ordinary skill in the art at the time of the invention to develop a biocidal with less combustable property like halogenated hydantoins.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MANU MANOHAR whose telephone number is (571)270-5752. The examiner can normally be reached on Mon - Thu 9.00AM to 4.00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, PATRICK Nolan can be reached on 571-272-0847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For

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MANU MANOHAR
Examiner
Art Unit 4161

MM

/Ashwin Mehta/

Primary Examiner, Technology Center 1600